

REMARKS

The October 30, 2008 Office Action has been reviewed and the application has been amended. The pending application is believed to be in condition for allowance.

In the Action, the Examiner acknowledged errors in the prior Action and reset the response deadline; rejected the election with traversal and maintained the withdrawal from consideration of claims 1 and 70-82; rejected claims 8, 19, 34, 51, 56, 63-67, 83-84, 86 and 88 under 35 USC § 102(b) as being anticipated by Fay (U.S. Patent No. 4,957,425); rejected claims 49, 68, 85, 87 and 89-118 under 35 USC § 103(a) as being obvious over Fay in view of Murphy (U.S. Patent No. 6,042,361), Orlowski (U.S. Patent No. 3,941,538) in view of Caldwell (U.S. Patent No. 206,771).

Pending claims 8, 19, 34, 56, 63-68, 83-87, 90-91, 93, 102-112, 115 and 118 are cancelled. New dependent claims 119-127, similar to claims 65-66 and 104-110 have been added.

No grounds of rejection are stated for claim 69. To the extent that the Examiner intended to reject claim 69, Applicants traverse the rejection based on the arguments presented below.

Amended claim 88 is patentable over the applied references. After amendment it reads:

"88. Device for moulding three-dimensional products from a meat mass, comprising a moulding surface, which is provided with one or more mould cavities which are open on one side of the moulding surface and are defined by a boundary comprising walls and base, which boundary comprises a porous structure having intercommunicating pores, a mass feed member, which is arranged at a mass feed position, for feeding the said mass to the mould cavities, comprising means for closing a mould cavity and maintaining the mould cavity in a closed condition, the device also comprising means for applying a medium for eliminating adhesion forces between all sides of the boundary of a mould cavity and a moulded product."

The amendment concerning the position of the mould cavities in the moulding surface have been made to clarify the claim. Furthermore, this claim now specifies the construction of

the boundary, based on claim 91. The addition "all sides of" in the last line is based on [0011] of the published application US 2005/0220932 A1 which reads as follows:

[0011] In the method according to the invention, to this end step b) comprises the removal of the adhesion forces between product and boundary of the cavity substantially simultaneously at all the interfaces between the moulded three-dimensional product and the boundary. According to the invention, the adhesion forces are substantially eliminated, at the time of release, at all the surfaces of the moulded product which are in contact with the base and peripheral wall simultaneously. It has been found that the removal of a moulded product is simpler and leads to less production loss if the adhesion forces are eliminated on all sides (apart from the open side of the mould cavity). The release occurs partly as a result of the force of gravity (the inherent weight of a moulded product), with a force of this nature simultaneously being boosted by eliminating the adhesion forces on all sides. As a result of release occurring on all sides simultaneously, the edge definition of the moulded product is greatly improved compared to the prior art, and the finished moulded product more accurately corresponds to the mould cavity, since it retains the shape. It should be emphasized that in the invention, in addition to the force of gravity a force is temporarily also exerted for the purpose of removing the moulded product from a mould cavity, which force is not produced by mechanical means which are in contact with the product, such as for example a plunger. Furthermore, this additional expulsion force is generated at the time of release and is not permanently present, as for example in the case of a non-stick layer. The reproducibility of the shape of the moulded products in the device according to this aspect of the invention is improved in this way, as is the reproducibility of the weight. In addition, there is no need for any additional materials, such as the disposable film used in the moulding device according to the prior art, or for the associated processing equipment.

Independent claims 49 (release device), 51 (mass feed member), 99 (embodiment with strip having flexible premoulds), 100 (strip) and 101 (strip assembly) are maintained without substantive amendment. (Claims 49 and 51 are amended to remove element numbers.)

Applicants traverse the rejections as stated below.

In the Office Action the Examiner rejected pending claims 8, 19, 34, 51, 56, 63-67, 83-84, 86 and 88 as anticipated by Fay (US 4957425). Fay discloses an apparatus for producing shaped products. This apparatus comprises a rotary die roll having die cavities in its outer periphery. The die cavities are defined by a configured side wall and a porous bottom wall,

e.g. from a gas-permeable sintered metal. In the embodiments disclosed by Fay the cavities or openings 14 extend from the periphery of the die roll 13 into the hollow interior 15 thereof. Piston heads 16 are slidably mounted within each of the die cavities 14. These piston heads 16 support gas-permeable metal, through which a fluid e.g. air is directed from the underside of the sintered metal dies 17. As explained in the section "Operation", after filling of a die cavity (piston head is retracted) with a predetermined weight or quantity of product in a loading position and upon approaching its discharge position by rotation of the die roll the sintered metal dies are moved toward their outermost limit. Air is then supplied at a predetermined pressure to the underside of the dies and passed outwardly through the pores of the dies. As a result the product is said to be blown free from the dies and deposited onto a moving conveyor. Thereafter upon continued rotation of the die roll the sintered metal dies are retracted again in order to start a new processing cycle.

From the above summary of Fay, it is clear that the device as claimed in amended independent claim 88 is patentably distinct from the device of Fay. In the device according to the invention, the boundary including the upstanding wall(s) in addition to the base of a die are made from a porous structure comprising intercommunicating pores. Moreover, the dies are immovable with respect to the periphery of the moulding surface, i.e. the bottom of the dies cannot be extended or retracted using a piston. Due to the absence of movable die bottoms (which require additional control and actuating means) the device according to the invention is far easier to operate and requires less maintenance and other services. Additionally, due to the presence of porous walls through which also an adhesion eliminating fluid, e.g. a pressurized fluid, is passed upon discharging products from the dies, the adhesion between the boundary and the product is reduced or eliminated at all contact surfaces. As a result, the shape of the product is maintained and the risk of deformation is reduced. Another difference between the device of

Fay and the device according to the present invention concerns the closing means. Claim 88, as amended, is neither anticipated by Fay nor rendered obvious by Fay and, hence, is patentable over Fay.

As to the combination of references, the primary reference applied by the Examiner is Fay. Fay is directed to an apparatus for producing shaped products. The Examiner admitted that "Fay fails to teach inserts made of flexible elastomer, and a release device." The Examiner then relies on Orlowski, Caldwell and Murphy. Orlowski is directed to an apparatus for forming edible rings, namely onion rings. Caldwell is directed to brick machines. Murphy is directed to a mold for use in a plastic injection molding system and a venting pin. The problems that each of these references are directed to solving are so dissimilar as to teach away from their combination. Molding of bricks (Caldwell) teaches away from molding of foodstuffs. Although the Examiner only identifies Murphy, with no discussion, injection molding of thermoplastics (Murphy) has nothing to do with molding of foodstuffs. Despite the fact that onion rings are food, Orlowski is limited to that particular foodstuff. Taken together, there is simply no reason to make the combination asserted by the Examiner.

Substantively, the secondary references applied by the Examiner cannot remedy the shortcomings of Fay. Neither Orlowski nor Caldwell discloses immovable porous die cavities. In Orlowski ring shaped products are ejected by suitable movement of the reciprocable ring assembly 33 in the annular well 32 of the plastic member 30. In Caldwell, the mold wheel C has boxes or molds c in its periphery or face, provided with plungers or ejectors in order to effect ejection of the bricks after being molded.

Therefore amended claim 88 is patentable over any combination of Fay with one or more of the references applied by the Examiner.

The arguments of the Examiner in paragraph 6 are difficult to understand. First of all, as mentioned above, the Examiner only refers to Murphy, but does not discuss in any detail the disclosure of Murphy. According to the Examiner, it would have been obvious to the skilled person to modify Fay with the plastic material as taught by Orlowski for providing a wear resistant element for the drum. It appears that the Examiner uses this combination of Fay and Orlowski in view of the claims 99-101 relating to a strip embodiment.

Claim 99 defines that a moulding drum having mould cavities is provided at its periphery with a strip having at the position of a mould cavity a flexible premould and that the moulding device has reduced-pressure means for forming a reduced pressure in the mould cavity. This strip does not have the function of protecting the moulding drum, but improving the speed and easiness of the device. The strip is described in [0053-54] of the published application US 2005/0220932 A1:

[0053] According to this aspect, the invention provides a moulding device of the type described in the preamble, in which around the outer circumference of the drum there is a strip, the strip being provided, at the location of a mould cavity, with a flexible premould which substantially corresponds to the mould cavity. In this moulding device according to the invention, there is a strip wrapped around the drum, preferably made from a plastics material, in which there are prefabricated flexible premoulds at the location of the mould cavities. Since the premoulds, the shape of which is virtually identical to that of the corresponding mould cavities, are formed in the strip prior to operation, these premoulds can be sucked into the mould cavities with the aid of the reduced-pressure means more quickly and more easily than in the case of the strip according to the prior art, which in each case returns to its original, planar shape and is continuously renewed.

[0054] The ends of the web from which the strip is formed can be fixed to the drum using adhesive tape, glue, mechanical securing means or the like. The ends can also be secured to one another, for example by hot-welding, so that an endless strip is formed.

Neither Fay nor Orlowski has a strip wrapped around the circumference of the drum. Thus, it is not clear which element of Fay has to be substituted by the plastic member 30. In fact, the present invention protects the strip with an additional wear resistant element.

According to the Examiner, Caldwell discloses cutters K and M. However, citing from page 2, left column of the Caldwell specification: "K represents the cut-off knife for removing excess clay from the bricks after they have been molded and before being ejected from the boxes." This knife is caused to move to and fro rapidly in guides k. Thus K is not a product release device as defined in e.g. claim 49. "M represents a shaft sustained on the frame A, and having radial blades m, in which are inserted strips" This element M is a wiper for wiping the faces of the mold-boxes and of the plungers.

The claims depending from the independent claims are also patentable over the applied references.

The references applied by the Examiner do not anticipate or render obvious the invention claimed in the now-pending claims. Reconsideration and withdrawal of the prior art rejections are respectfully requested.

As all grounds of rejection have been addressed and overcome, entry of this Amendment and issuance of a Notice of Allowance of the claims, as now presented, are respectfully solicited.

In the event that there are any questions relating to this Amendment or to the application in general, it would be appreciated if the Examiner would telephone the undersigned attorney concerning such questions so that the prosecution of this application may be expedited.

Please charge any shortage or credit any overpayment of fees to BLANK ROME LLP, Deposit Account No. 23-2185 (000023.0122). In the event that a petition for an extension of time is required to be submitted herewith and in the event that a separate petition does not

accompany this response, Applicants hereby petition under 37 C.F.R. 1.136(a) for an extension of time for as many months as are required to render this submission timely.

Any fees due are authorized above.

Dated: April 29, 2009

Respectfully submitted,

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